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ABSTRACT

Based on the need to develop an outline of the procedures and methods used in vocational education in Florida, which would then form the basis for communication, discussion, and development of a multi-State consortium for the production of performance objectives and criterion measures for occupational education, this report, one of five under a project to develop a multi-State consortium, reviewed four projects (developed in cooperation with the Florida Educational Research and Development Program) designed to develop pre-objectives, performance objectives, and criterion-referenced measuring devices. (The projects studied were (1) Automotive Mechanics Assessments, (2) Producing Assessment Instruments in Ornamental Horticulture, (3) Employability Skills Projects, and (4) Typewriting Communications.) This report is divided into three parts: Part 1 is an introductory and procedural presentation, part 2, the text of the report, is an informational outline of the procedures and methods used by the Florida Research and Development Program to develop performance objectives and criterion-referenced measures in occupational education. The third or final part includes the appendixes related to the further development of a multi-State consortium. (HD)

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Southern Association of Colleges and Schools
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A PROJECT FOR THE DEVELOPMENT OF A
MULTI-STATE CONSORTIUM FOR THE PRODUCTION OF
PERFORMANCE OBJECTIVES AND CRITERION MEASURES IN
OCCUPATIONAL EDUCATION, FLORIDA DEPARTMENT OF EDUCATION
GRANT NUMBER S.D.E. 730-073

First Report

Report of Procedures Used to Develop Performance Objectives and Criterion Measures Florida Educational Research and Development Program

January, 1973

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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by

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Project Director

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FORWARD

This report is the result of a study of four projects underway and/or recently completed in the State of Florida which were funded through the Florida Educational Research and Development Program. The projects were designed to develop pre-objectives, performance objectives, and criterion-referenced measuring devices. The projects studied were as follows:

(1) Automotive Mechanics Assessments, Grant Number S.D.E. 720-082

(2) Producing Assessment Instruments in Ornamental Horticulture, Grant Number S.D.E. 710-063

(3) Employability Skills Project, Grant Number S.D.E. 710-92

(4) Typewriting Communications, Grant Number S.D.E. 720-073

The Southern Association of Colleges and Schools, Commission on Occupational Education Institutions, has entered a contract to organize a multi-state consortium to develop performance objectives and criterion measures in Occupational Education. A part of this project was to develop a report outlining the procedures and methods used in Florida, which would form the basis for discussion with states interested in the consortium. This report is organized so that the text of the report (Part II) may stand on its own. The report will provide a basic design for the proposed consortium and a point of departure for discussion and development.

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PART I

INTRODUCTION

The purposes of this study were to review four projects developed in cooperation with the Florida Educational Research and Development Program and to produce a report outlining the methods and procedures used to produce pre-objectives, performance objectives, and criterion-referenced measures in Occupational Education. This report will be utilized to communicate to other states the approach used in Florida. The report will form the basis of communication, discussion, and development of a multi-state consortium for the production of performance objectives and criterion measures for occupational education.

During the process of the study, it was noted that Robert F. Mager and his work in the area of developing and evaluating instructional objectives had a great influence upon the procedures used by the Florida projects. This influence is especially evident in the Request for Proposals, published by the Florida Educational Research and Development Programs.

This study is divided into three distinct parts. The first part is an introductory and procedural presentation. The second part is the text of the report, which is designed to stand on its own as an informational report outlining the procedures and methods used by the Florida Research and Development Program to develop performance objectives and criterion-referenced measures in occupational education. The third or final part of the report will include the appendices and attachments.

The primary concept of the procedures used by the Florida Research and Development Program was to develop a means of making instruction more accountable and to give it a basis upon which it might be better evaluated, revised, and improved to more fully meet the needs of the student and at the same time the job entry level requirements of business and industry. Procedures used by the four projects had points of wide variance, but the products produced are remarkably similar. This flexibility on the part of the Florida Educational Research and Development Program has produced the product and has, at the same time, developed expertise of several people in identifying, writing, and assessing performance objectives.

METHOD OF PROCEDURE

Interviews Conducted with Florida Personnel

Interviews were scheduled with personnel active in the administration, supervision, and conduct of the four projects. The Florida Department of Education was visited on two occasions with interviews and discussions taking place at that level. (See Appendix "A" for list of persons contacted and dates of contact.) Each primary investigator was interviewed regarding the details of his project with particular emphasis on the procedural approaches and methods of performance objective development and criterion-referenced measures development. The process of validation was discussed, as well as the use of craft and advisory committees and the utilization of industrial and business persons other than craft and advisory members. Notes were made and compiled from the interviews. In two of the four projects, the coordinator was interviewed regarding his role in the project and the details of the project activities.

In addition to the primary investigators of each project, interviews were conducted with selected personnel in the Florida Educational Research and Development Program. The primary emphasis of these interviews was upon project processing, monitoring, and dissemination. Proposal development and the project approval processes were also discussed, with appropriate samples of guidelines, forms, and other related material being furnished by the Florida Department of Education.

Study of Project Materials

Research of Needs: The Florida Educational Research and Development Program established priorities for projects to be funded. Due to a very active legislature, top priority is being given to making programs of education both more effective and more accountable. A weakness was that it was difficult to assess the instructional effectiveness based upon rather general objectives being used by most teachers. To make instruction more accountable, high priority was given to the funding of projects which would develop performance objectives and criterion-referenced test items designed to measure in specific terms the instructional process.

Guidelines and Forms: An extensive guide for project development was prepared by the Florida Educational Research and Development Program, which provided background information, approval processes, project management and control, payment conditions, etc. In relation to this report, probably the most pertinent information was the definition of Performance Objectives and Criterion-Referenced Test Exercises listed in Technical Specifications for Catalogs of Objectives and Assessment Items[1] publication. These specifications are appended to each contract involving the production of objectives. A listing of these specifications is reproduced in Part II of this document.

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[1] Technical Specifications for Catalogs of Objectives and Assessment Items; Florida Educational Research and Development Program, Florida Department of Education, Knott Building, Tallahassee, Florida.

Each phase of the four projects, which included solicitation of project proposals, memorandum of agreement, "State of the Art" reports, and the finished products of three of the four projects, was carefully reviewed. The final report and product of the Typewriting Communications projects were not complete, but a draft of each was furnished by the Bureau of Vocational Research and Evaluation of the Florida Department of Education for the purpose of this study.

During the final stages of the interview process, the Florida Educational Research and Development Program Staff recommended the use of the Automotive Mechanics Project as a model for outlining and presenting the Florida approach to developing performance objectives and criterion-referenced measurements. The descriptions, accounts, and procedures presented in Part II of this report are presented in terms of the Automotive Mechanics Project for the following reasons:

(1) The project was the last of the group of four projects covered by this report to be funded. Since it was the last, it had the advantage of incorporating the findings of the first three projects, which seemed to contribute to a more rapid development of pre-objectives, performance objectives, and criterion-referenced measures.

(2) The project was developed in the shortest period of time.

(3) The total cost of the project was lower than the former projects.

These advantages can be attributed partly to the development of expertise on the part of the Florida Educational Research and Development Program and the experiences of earlier investigators working on the three previous projects in occupational education. Other methods and techniques used by the investigator of the Automotive Mechanics Project could have contributed to the apparent efficiency of the project.

Florida Educational Research and Development Program has definite reporting and product submittal dates designed into the contract.

Project Management

This section of the report covers the management processes used at the Florida State Department of Education level and those management techniques which are used in the field where research is being conducted. Project monitoring and review techniques are discussed as they are presently being conducted by the Florida Educational Research and Development Program.

Methods Used to Develop Performance Objectives

In this part of the report, the method used to develop pre-objectives and performance objectives is explained. A careful review of the four projects studied for this report resulted in an approach which seems to have valid support from within the projects and from the craft and advisory committees used at various times during the projects.

Methods Used to Develop Criterion-Referenced Measures

The projects reviewed in this study developed pre-objectives, performance objectives, and criterion-referenced measurement devices simultaneously. Although they were accomplished in the same project, there were some definite differences in the techniques used. Because of these differences, this report treats them independently.

Validation Procedures

This section of the report explains the methods used to validate the performance objectives and criterion-referenced measures. The involvement of general advisory committee and craft committee members is explained, as well as the field testing design.

Process and Product Evaluation

The process and product evaluation is designed into each project. The use of craft and advisory committees, technical consultants and advisors, and the involvement of a Department of Education Coordinator provides on-going product and process evaluation. A network of participating field-test schools, coupled with cost analysis information, provides for accountability and applicability of the project products.

Dissemination of Materials

Elements in this portion of the report deal with the strategy to be considered for dissemination of the catalog of pre-objectives, performance objectives, and criterion-referenced measurement devices. The present design of dissemination is explained. Modifications are presently under further study and analysis.

In-Service Training of Instructional and Supervisory Personnel

The proposed plan for in-service training of instructional personnel and supervisory personnel is contained in this section of the report. The dissemination of catalogs and their proposed use in state assessment, instructional course development, and

student assessment efforts are outlined. This portion of the report is based primarily on ideas gathered during the interview portion of the study and on those portions covering in-service training which were a part of the "Memorandum and Agreement."

Method of Revision and Updating of the Catalogs

The nature of technological change in a modern society requires that all materials developed for occupational education have as a part of the developmental process means by which these materials can be revised and updated. This section of the report presents a proposed revision and updating cycle which would permit periodic revision through the involvement of content specialists, instructional personnel, supervisory personnel, and craft committees.

PART II

AN APPROACH TO DEVELOPING PERFORMANCE OBJECTIVES AND CRITERION-REFERENCED TEST EXERCISES IN OCCUPATIONAL EDUCATION

PREFACE

This part of the study contains the text of the report. It is designed to communicate to educators, and particularly to occupational educators, a process used by the Florida Educational Research and Development Program for the production of pre-objectives (preliminary performance objectives), performance objectives, and criterion-referenced measuring devices. In order to keep the report as brief as possible, the outline method of presentation was selected. More detailed explanations are available through the office of the Commission on Occupational Education Institutions, Southern Association of Colleges and Schools, 795 Peachtree Street, N. E., Atlanta, Georgia 30308.

The approach outlined is one method of achieving the production of catalogs of performance objectives and criterion-referenced measures and, thus, should not be considered a rigid or inflexible plan which cannot be revised or changed. Its primary purpose is to serve as a point of departure for discussing the proposed operation and implementation of the multi-state consortium. A detailed process and format will be developed by the consortium members if the idea becomes a reality.

A. DEFINITION OF TERMS

1. Pre-objective: A pre-objective is a statement in measurable terms of an observable behavior to be exhibited by the learner. It possesses each of the following elements or characteristics:

a. Situation - The situation confronting the learner is clearly stated.

b. Action - The action required of the learner is identified.

c. Object - The object on which the learner is to operate (i.e., the object of the action) is clearly stated.

d. Limits - The limits associated with the activity expected of the learner are stated.

e. Measurability - An observable performance is generated by the stated action.

2. Performance Objective: A Performance objective is a statement in precise, measurable terms of a particular behavior to be exhibited by the learner under specified conditions. It possesses each of the elements or characteristics specified below:

a. Situation - The situation confronting the learner is clearly specified, including the mode in which stimuli are to be presented.

b. Action - The action required of the learner is unambigously defined, including the mode in which responses are to be made.

c. Object - The object on which the learner is to operate (i.e., the object of the action) is clearly stated.

d. Limits - The particular limits associated with the activity expected of the learner are specified. (Limits may be placed on situation, action and/or object.)

e. Measurability - The specified action is an observable rather than an inferred response.

f. Communicability - The objective is so stated that one, and only one, interpretation of the objective is reasonably possible.

g. Criterion - The degree of proficiency required as evidence of accomplishment by a student of the objective is indicated. (The criterion may be indicated implicitly or explicitly. If implicit, 100% accuracy is effectively designated. If explicit, may be appended parenthetically to the statement of the objective.)

3. Criterion-Referenced Test Exercise: A criterion-referenced test exercise is an exercise based upon a performance objective and is designed to allow the determination of whether or not the learner has accomplished the objective. It possesses each of the characteristics specified below:

a. Congruence - The task specified in the item corresponds directly to the performance specified in the objective, including the situation, action, object, and limits.

b. Comprehensibility - The item-specified task is so stated or portrayed that the learner clearly understands what is expected of him.

c. Objectivity - The exercise (including component items, if any) is stated in such a way that all competent observers (evaluators) can make a clear and unequivocal decision as to whether or not the learner has demonstrated an acceptable performance.

d. Integrity - The exercise is structured in such a way that an acceptable response to the exercise constitutes sufficient evidence, in and of itself, that the learner has accomplished the corresponding objective.

e. Equivalence - If two or more exercises correspond to a single objective, each exercise in the set would be a true alternate, in that a student who passes (or fails) one exercise on a given occasion would be expected to pass (or fail) any other exercise in the set.

4. Domain of Interest: The total content covered by a subject or occupation. Domain charts, as they become a part of a task analysis, provide the limits within which the performance objectives and criterion-referenced test exercises are developed.

B. REQUEST FOR PROPOSALS

This document identifies ideas which need research and development and serves as a means of soliciting proposals from public and private organizations, agencies, and institutions which have the ability, personnel, and technical competence to complete the project. The document provides the philosophical, fiscal, and administrative strategies utilized to insure successful completion of project.

The Request for Proposals outlines the suggested format of the proposal including major headings such as Introduction, Discussion of the Problem, The Approach, and The Work Plan. Also included are topics fully explaining the management procedures to be used in the project, such as general organizational charts, facilities to be utilized, description of related experiences of the organization, agency, or institution, sub-contracting plan (if applicable), and the method of project control (reporting periods). Each proposal is developed with descriptions of personnel, travel, supplies and materials, and other costs. Specific amounts

are shown for each cost with the rationale for determining the cost included as a part of the description.

The Request for Proposals includes guidelines for project format, methods of evaluation, plan for contract awards, and general contractual provisions.

C. DEVELOPMENT OF AGREEMENTS

Upon approval of the proposal, the successful proposer develops with the Florida Educational Research and Development Program a Memorandum of Agreement. This Memorandum of Agreement sets forth the obligation of each party and establishes reporting and product delivery dates. Also explained in the Memorandum of Agreement are other special conditions such as schedules for payment, copies of the product required, person(s) to whom project personnel are to report, any special validation requirements, dissemination of materials, and in-service training of personnel to be users of the product. This Memorandum of Agreement becomes the legal binder of the two parties to the conditions set forth in the proposal.

D. REPORTING PROCEDURES

Periods of reporting are a part of all Memorandum of Agreement and are mutually established by the successful proposal writer and the Florida Educational Research and Development Program. Reporting requirements are established on specific dates and at various intervals through the life of the project. Reports take the form of progress reports, rough drafts of the product, or the finished product itself.

Reports and/or drafts of the product are coordinated directly with payment schedules. When the specified report or product is delivered, under conditions of the Memorandum of Agreement a pre-determined amount of money is paid.

E. PROJECT MANAGEMENT

A project monitor is assigned to each project upon the development and approval of the Memorandum of Agreement. This person(s) interprets the contract to the project personnel and serves as a reporter to the Florida Educational Research and Development Program regarding the progress of the project. In projects involving production of objectives and test exercises, he is a subject-matter specialist and approves or disapproves the product output with respect to content. The guide for monitoring is the "Schedule of Events" required of the contractor. This monitor also makes recommendations for payment as the necessary reports and/or products are delivered and accepted. All projects calling for the expenditure of amounts in excess of $15,000 require that requests for proposals be solicited. Thus completion of an earlier stage of product development does not guarantee continuation by the same contractor.

Each project involving production of objectives is assigned a technical consultant whose functions include training of project personnel in writing techniques, review of materials produced with respect to technical quality, and final judgement with respect to the technical adequacy of the objectives and test exercises.

In addition to the monitoring and reporting features required

by the Florida Educational Research and Development Program, the policy of annual contracting with provisions that no contract may extend beyond a fiscal year provides further safeguards.

F. METHODS USED TO DEVELOP PERFORMANCE OBJECTIVES

1. Study of the "State of the Art":

A comprehensive study is made of all material related to the curriculum area under development. Information is obtained from other states, from business and industry, and in some cases, from foreign sources. The material is studied in terms of its applicability to the domain being developed and the quality of the material being reviewed. Exhaustive efforts are made through the ERIC files to identify and study items of research which seems to be related to the domain. In some cases, questionnaires and surveys are sent out to collect the needed and/or additional information. The Florida Education Research and Development Program strongly urges a thorough and comprehensive study of the "State of the Art" before beginning an independent development of performance objectives.

In addition to public and private occupational education programs, project personnel are encouraged to survey industrial training programs conducted by companies themselves. In certain areas, a study of the military training materials provide pertinent and applicable performance objectives and criterion-referenced measures and should definitely be considered in the "State of the Art" study.

2. Domain Charting for the Occupational Area Being Developed:

A chart is developed which identifies the domain or instructional territory over which performance objectives and criterion-referenced measures are to be developed. This chart is usually designed to provide all performances expected of workers in a particular occupational category. From within this set are selected those performances which are judged by employers and craft committees to be entry-level skills. In the broadest sense this could be applied to the total domain of automotive mechanics and to lesser domains within the broad classification. An example of a lesser instructional domain under automotive mechanic could be automotive tune-up specialist.

The domain is identified by the use of the Dictionary of Occupational Titles, by craft committees members who are employed and actively working in the occupation being developed, and by conducting a task analysis of a broad trade area where the occupation being developed is broadly represented. The domain is then established through congruence of the three sources of information. The domain chart culminates in rather specific statements defining competencies. These competencies are, in turn, defined by a given set of performances stated in objective form.

3. Development of Pre-Objectives:

In working toward a performance-based instructional program, a complete set of pre-objectives are developed. The term pre-objective is merely shorthand for "preliminary performance

objective." Since the criteria for pre-objectives are less stringent and because the resultant task description is relatively brief, contractors are able to define the domain in terms of performance with relative ease. Where pertinent, particularly in the case of job-entry skills, each pre-objective can be expanded to the level of specificity required in a performance objective. The pre-objectives provide the framework for present programs desiring to move toward a performance-based course and new programs which are to be started.

4. Use of Content Specialists:

Content specialists are employed as writers of both classes of objectives and the test measures. Their knowledge and expertise provides the professional guidance in the wording, comprehensiveness, and applicability of the performance objectives. These persons are aided and frequently trained in writing techniques by the technical consultant(s) assigned to the project.

5. Use of General Advisory Committees:

The general advisory committee is appointed early in the project and assists in guiding the investigator through a planned study of the domain and the processes of business and industry as they apply to the domain. Its function is primarily one of advice and counsel through the project. It provides the investigator a mirror for his ideas, his procedures, and the development of the finished product.

6. Use of Craft Advisory Committees:

This committee is of vital importance because of the responsibilities it is assigned. It is made up of persons who are actively employed in the occupational area being developed; and, in addition, it has as members outstanding teachers in the occupational area being developed. They have as their chief responsibility the review of the pre-objectives, performance objectives, and criterion-referenced test exercises. They advise with respect to the appropriateness, the utility, and the comprehensiveness of all objectives and measures developed by any method in the project and pass on all materials developed by the content specialists. It is their responsibility to identify the businesses and industries which will be involved in the validation procedure. They assist in the development of surveys, interview formats, and questionnaires to be used in screening industry and obtaining their feedback. The proper selection, organization, and utilization of this committee is of prime importance in the validation of the materials produced by the project.

7. Cataloging Pre-Objectives, Performance Objectives, and Criterion-Referenced Test Exercises:

Each project produces a catalog which organizes the pre-objectives, performance objectives, and criterion-referenced test exercises in a logical order for use by teachers and supervisors. A coding system is developed which is used to organize, classify, and assist in the rapid retrieval of the pre-objectives, performance objectives, and criterion-referenced test exercises.

The system identifies the type of objective or measurement involved, general subject area, specific occupational area, classification of the objective or measure, grade level of material, and the type of learning process involved (discrimination, verbal, problem-solving, cognitive, etc.). Within the domain, a numeric coding system identifies the pre-objectives and performance objectives included for each specific segment of the domain. The criterion-referenced test exercises are located with the performance objectives and ordinarily require no additional retrieval.

8. Field Testing of Materials:

A part of each project approved by the Florida Educational Research and Development Program is the field testing of materials. Definite events are identified which must take place during field-test activities. These events are an integral part of the validation process used in each project. The field testing includes use of test consultants, identification of test sites, types of students to be used in field tests, methods of testing, involvement of teachers and supervisors, collection of student information on data sheet (those students participating), and a report of the total field test results.

G. METHODS USED TO DEVELOP CRITERION-REFERENCED TEST EXERCISES

The most common production sequence employed in the process of creating criterion-referenced test measures is (1) pre-objective, (2) trial criterion measure, (3) performance objective, and (4) revised or final criterion measure. The process of stating in

testable form the task(s) to be performed in the accomplishment of the pre-objective serves to clarify the objective and facilitates the more complete specification required for the corresponding performance objective. In those cases where development to the "performance objective" level is not required, the practice has been to provide a sample (Proto-type) item rather than a complete exercise. The criterion-referenced test exercises are ordinarily developed, validated, and field tested at the same time as the pre-objectives and performance objectives. It is the function of the technical consultant assigned to the project to advise, review, and approve the test items or exercises developed by a project with respect to measurement aspects.

H. VALIDATION PROCEDURES

Validation is an integral part of the total process of product development. The catalogs of pre-objectives, performance objectives, and criterion-referenced test exercises are developed by content specialists and test consultants who are recognized as leaders in their field. Their work is then processed through general advisory committee members, craft committee members, project staff personnel, and finally field tested under actual instructional conditions. Each process of validation has specific criteria by which the product is evaluated before it is permitted to be developed to its next stage. Involvement in the validation process is extensive and comprehensive. Of special significance is the use of business and industrial practitioners who are either working in the field or supervising workers in the field. They are surveyed, interviewed,

and, in some instances, serve on craft committees during the process of each project in occupational education.

I. DISSEMINATION OF MATERIALS

Dissemination of the catalogs is partially covered as a part of the Memorandum of Agreement. A specific system for dissemination is not yet fully implemented or spelled out. Each project director has certain ideas regarding dissemination including who should be responsible for this part of the total task. As a result of this study, the following comments are made which could lead to a well developed and systematic dissemination plan. The general consensus seems to favor a dissemination plan which would permit the flow of products from the projects to the Florida Educational Research and Development Program and, thence, to the various sub-divisions in the Department of Education. From these sub-divisions, the materials would be distributed in connection with well planned in-service training programs for supervisors and teachers. During the interview process, the general consensus was that the best person to do this would be that state level person having responsibility for a service area (T & I, Agriculture, D. E., Office Occupations, Etc.). It was the consensus of those interviewed that all personnel who are to use or supervise the use of the materials be thoroughly trained in the implementation of the performance-based materials and the methods of evaluating their effectiveness.

J. IN-SERVICE TRAINING OF PERSONNEL

A vital step toward the implementation of a performance-based curriculum is an in-service and pre-service teacher education program.

Such a program will develop skills on the part of existing and new teaching and supervisor personnel in the utilization and evaluation of performance-based instruction. The implementation of the performance-based curriculum requires an orientation to this method as well as specific instruction in how to select and utilize pre-objectives, performance objectives, and criterion-referenced test exercises. There are at least two fields of thought regarding who should develop performance objectives and the role of the teacher in the development and implementation of a performance-based curriculum.

One of the current trends identified by this study is that most teachers should be educated in skills necessary to properly select and organize pre-objectives, performance objectives, and criterion-referenced test exercises which have already been developed by the procedure outlined in this report. They would make their selection from a comprehensive and complete catalog of performance objectives and design their materials accordingly.

Another point of view holds that <u>all</u> teachers should be trained to write performance objectives and criterion-referenced test exercises using the catalogs of pre-objectives as a broad frame of reference. With this point of view, the question of validity and expertise enters the picture, as does the difficulty of educating <u>all</u> teachers to prepare these objectives.

The plan suggested by this report takes the former point of view -- that most teachers could be educated more efficiently,

with less in-service training costs, and with a higher degree of validity and reliability to skillfully select and organize performance objectives and criterion-referenced test exercises from a catalog.

K. METHODS USED TO REVISE AND UPDATE THE CATALOGS OF PRE-OBJECTIVES, PERFORMANCE OBJECTIVES, AND CRITERION-REFERENCED TEST EXERCISES

Today's technological advances are taking place at a rapid rate. This is characterized by the change of models which occur in everything from automobiles to high-speed computers. A program of study, particularly one which is performance-based, must have as a definite element a means by which materials, practices, and procedures can be continually reviewed, revised, and updated.

In keeping with this frame of reference, the following four elements are necessary in order to keep performance-based materials current and up-to-date. Each of the elements can be expanded and elaborated upon but are presented in an uncomplicated form for the purposes of this study.

(1) In-service and Pre-service Training

This activity would introduce materials to the teachers and supervisors. They would be trained in the skills of selecting appropriate performance objectives and criterion-referenced test exercises from a comprehensive catalog. This would permit a teacher to enter the cycle at anytime they are selected to implement a performance-based curriculum or at the time they are selected for their initial period of employment.

(2) Submittal to Local Craft Committees

After one year of use, the teacher would conduct Craft Advisory Committee meetings (at the local level) to determine the appropriateness of the performance objectives and criterion-referenced test exercises and their applicability to the local employer needs.

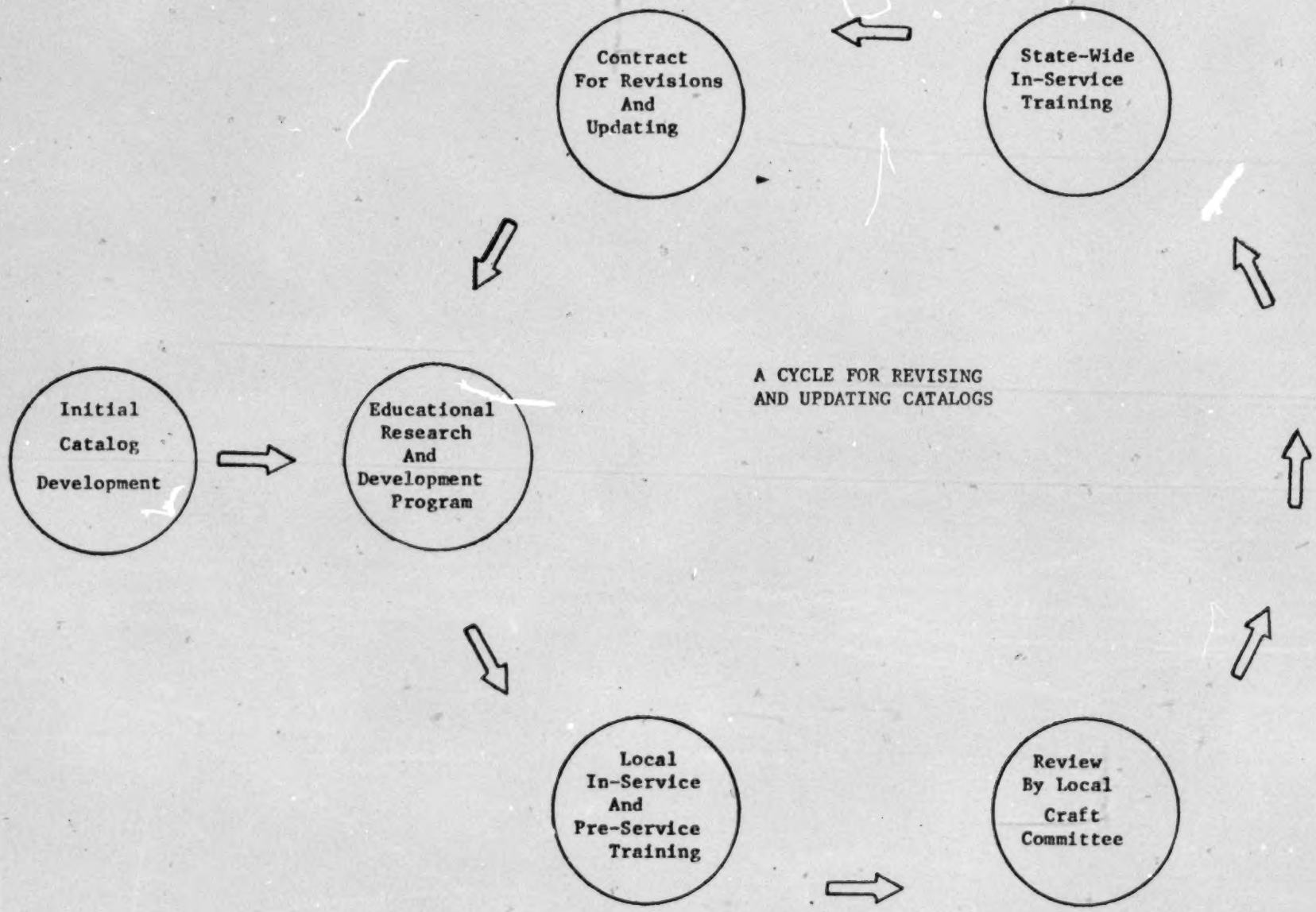
(3) State-wide In-service Meeting

The third year of the cycle would involve a meeting of all teachers in their occupational areas to review and make recommendations for changes in the master catalog of performance objectives and criterion-referenced test exercises.

(4) Contract for Updating the Catalog

Every fourth year, a contract would be awarded to update the catalog. This process would follow basically the same procedure used in developing the initial catalog.

Upon completion of these four steps, the cycle would start over. A period of third party evaluation should occur at the end of each four-year cycle to determine the effectiveness of each phase, the degree of involvement, and the quality of the revisions made through the cycle. Other components of evaluation could be included at this time. The chart on the next page illustrates the plan for revising and updating the catalogs.


Contract For Revisions And Updating
State-Wide In-Service Training
Initial Catalog Development
Educational Research And Development Program
Local In-Service And Pre-Service Training
Review By Local Craft Committee

A CYCLE FOR REVISING AND UPDATING CATALOGS

PART III

APPENDIX A

LIST OF PERSONS CONTACTED

PERSONS INTERVIEWED

NAME	TITLE	DATE
Dr. Roy Giehls, Jr.	Consultant for Evaluation State Department of Education	11-17-72 & 12-21-72
Dr. K. M. Eaddy	Chief, Bureau Vocational Research and Evaluation State Department of Education	11-17-72
Miss Lucy C. Robinson	Assistant Administrator Business Education State Department of Education	11-17-72
Miss Gail Trapnell	Assistant Administrator Distributive Education State Department of Education	11-17-72
Mr. R. L. Gamble	Consultant, Industrial Education State Department of Education	11-17-72
Mr. John Healy	Coordinator for Research and Development State Department of Education	11-21-72
Dr. Jimmy Crews	Project Director Typewriter Communications University of Florida	11-20-72
Dr. Jim Hensel	Head, Department of Vocational-Technical Education University of Florida	11-20-72
Dr. Glen Shinn	Project Director Ornamental Horticulture University of Florida	11-15-72 & 11-20-72
Mr. William F. Wieser	Project Director Automotive Mechanics Project University of South Florida	12-29-72
Dr. Wallace Hannum	Project Director, Employability Skills Florida A & M Florida State University	12-28-72
Dr. Jim Selman	Project Coordinator Automotive Mechanics Project University of South Florida	12-29-72

APPENDIX B

PROGRESS REPORT ON THE PROJECT

January 12, 1973

PART I - Study of the "State of the Art"

The study of the "State of the Art" has been in progress since November 15, 1972. To date, an ERIC search of documents has been completed. A computer search has been made recently to include materials added since the ERIC search was conducted. Microfiche copies have been made of all available material through the National ERIC System.

A search for materials which might be appropriate has been made in the Educational Resources Index and the International Dissertation Files. Three books written by Robert F. Mager have been purchased and are being read for resource information.

In addition to the above items, a questionnaire and letter of introduction of the project was mailed to the eleven states making up the Southern Association of Colleges and Schools plus Missouri, Oklahoma, and Ohio. The questionnaire and letter was designed to assess the current status of performance-based instruction and criterion-referenced measurement in the states and to determine if the states were interested in the possibility of forming a consortium. As of the date of this report, nine states have replied to the questionnaire, and all nine have expressed an affirmative reply and have asked for more information about the proposed consortium.

In addition to the written responses, two other states have verbally expressed an interest in becoming involved in the development. One state has offered possible funding assistance. Contact is being made with that state to determine their interests and funding participation.

A detailed review of all literature collected and computer search materials is continuing. Some consultation assistance is being used in the organization of the materials and in editing the written materials produced by the project. For a detailed review of the plans for the coming two months, please refer to Appendix C, Calendar of Activities.

PART II - Outline of Procedures Used to Develop Performance Objectives and Criterion-Referenced Test Exercises

As of the submittal of this progress report, this portion of the contract will have been completed with the exception of editing changes to be made by the Florida Educational Research and Development Program.

PART III - Development of Proposed Agreement for the States Forming the Consortium

A search of the ERIC file has been made and appropriate microfiche obtained of material having to do with the development of consortia and educational cooperatives. A computer search to update the material was requested and was delivered January 11, 1973. A study of the agreement forms and organizational structures will result from the research of these materials. (See Appendix C, Calendar of Activities, for further detail.)

PART IV - Interviews with Policy-Making Personnel in the States Forming The Proposed Consortium

Interview schedules have been established for visiting each of the states expressing an affirmative interest in the project. Contact persons have been identified in each of the interested states and permission has been received to contact the key curriculum personnel and the State Directors of Vocational Education. Interviews will begin on January 16, 1973, and continue through March 7, 1973. (See Appendix C, Calendar of Activities, for details).

PART V - Organization and Management of a Conference of Proposed Consortium Members

Preliminary planning has begun on the timing of the conference and the setting of target dates for certain events to take place leading to the conference. Details of the conference should be complete by February 15, 1973, and will be submitted with the next progress report. (See Appendix C, Calendar of Activities, for events leading to the conference).

PART VI - Final Report of the Project

Little work has been accomplished at this time except for project achievements to date which will contribute to the final report.

The project director has discussed the proposed consortium with a large number of persons who are leaders in Vocational Education. These informal discussions have taken place during travels for the project, in meetings held by the Commission on Occupational Education Institutions, the American Vocational Association Convention,

and the Annual Meeting of the Southern Association of Colleges and Schools. Without exception, the idea has been well received and, in many cases, persons have offered to become actively involved if their services are needed. This has been especially encouraging to the project director.

• 1973 • JANUARY • 1973 •

CALENDAR OF ACTIVITIES - BEN A HIRST, JR.

APPENDIX C

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 NEW YEAR'S DAY	2 Work On Research Of Documents At R.C.U.-Knoxville	3 Work On Research Of Documents R.C.U. Knoxville. Registration for Dissertation Winter Quarter.	4 Work in COEI Office on rough draft of Florida Project First Report.	5 Work on Florida Project COEI Office.	6
7	8 Finalize First Report On Florida Project.	9 Finalize First Report on Florida Project.	10 SACS Staff Work on Florida Project Research Materials (microfirms) Finish Draft of 1st Rpt. on Fla.	11 Work on Fla. Project COEI Office. Project	12 Mail First Report on Florida Project.	13
14	15 Work In COEI Office on Research Material for Fla. Project. Self-Study Meeting.	16 Work On "State of the Art Report"	17 ←	18 Steering Committee Meeting For Self-Study (Consultant)	19 →	20
21	22 Work On "State Of The Art Report"	23 Work On "State Of The Art Report"	24 Work On "State Of The Art Report"	25 Make Revisions On First Report	26 Meet With Air Force Group On Performance-Based Instruction	27
28	29 Work On "State Of The Art Report" Florida Project.	30 Make Prelim. Visit To The Mississippi Divn. of Voc. Education.	31 Make Prelim. Visit To The Louisiana Divn. of Vocational Education.		DECEMBER 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	FEBRUARY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

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1973 FEBRUARY 1973

CALENDAR OF ACTIVITIES - BEN A. HIRST, JR.

APPENDIX C

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
JANUARY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	MARCH 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			1 Work On Agreement Form For Organization Of the Consortium.	2 Work On Agreement Form For Organization Of The Consortium.	3
4	5 Prelim.Visit To Virginia Divn. of Voc. Education.	6 Prelim. Visit To North Carolina Divn. of Voc. Education.	7 Work on "State of The Art" Report; Fla. Project.	8 State Dept. of Education Dr. Giehls Tallahassee, Florida	9 Finish First Draft of "State of the Art" Report Fla. Project.	10
11	12 Work On Finish Draft Of "State Of The Art" report. LINCOLN'S BIRTHDAY	13 Work On Finish Draft Of "State of the Art" Report. Ga. State,Prelim. Visit;Ga. State Dept. of Educ.	14 Mail the "State of the Art" Report. Prelim.Visit To So. Car. Divn. of Voc. Education. ST. VALENTINE'S DAY	15 Prelim.Visit To Texas Divn. of Voc. Educ.	16 Prelim. Visit To Oklahoma Divn. of Voc. Education.	17
18	19 Begin Work On Conference Design For Consortium Contact Consultants PRESIDENT'S DAY	20 Prelim. Visit to Ala. Divn. of Voc. Education.	21 SACS Staff Meeting 10:00 A.M. Work on Agreemt. Form & Organ. Report.	22 Prelim. Visit To Missouri Divn. of Voc. Education. WASHINGTON'S BIRTHDAY	23 Washington, D.C. To Meet With Curriculum Staff O.E. and the Aerospace Education Foundation.	24
25	26 Work On Materials For The Conference. Make Reservations Other Arrangements.	27 First Draft Of Organizational Structure & Agreement Forms	28 →			

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1973 MARCH 1973

CALENDAR OF ACTIVITIES - BEN A. HIRST, JR. APPENDIX C

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
FEBRUARY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	APRIL 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30			1 Prelim. Visit To The Ohio Divn. of Vocational Education.	2 Work On Report Of State Visits	3
4	5 Work on Conference Materials Double-Check Accommodations Other Arrangements.	6 Prelim. Visit To Tennessee Divn. of Voc. Education. Mail Letters to Conference Participants.	7 Prelim. Visit To Kentucky Divn. of Voc. Education. ASH WEDNESDAY	8 SACS Staff Meeting. Prepare First Draft of Report On Visits To Each State.	9 Finalize Materials For Conference Work On Report Of State Visits.	10
11	12 Prepare Final Draft Of Report On State Visits, Organizational Structure and Agreement Forms.	13 Prepare Final Draft Of Report On State Visits, Organizational Structure and Agreement Forms.	14 Mail Final Draft of Report On State Visits, Organizational Structure and Agreement Forms.	15	16	17 ST. PATRICK'S DAY
18	19	20	21	22	23	24
25	26	27	28	29	30	31

APPENDIX D

RECOMMENDATIONS RESULTING FROM THIS STUDY

1. The State Educational Research and Development Program should develop a comprehensive plan for the dissemination of products developed by the program or by contractors with the program. This dissemination plan should be designed in such a way that it becomes an integral part of each project which require broad dissemination of the product.

2. In-service and pre-service training programs should be designed which will insure proper preparation of instructional and supervisory personnel for the implementation and assessment of the effectiveness of performance-based curriculum material and criterion-referenced test exercises.

3. A system should be developed which would incorporate a means of revising and updating catalogs of performance objectives and criterion-referenced test exercises.

All three of these recommendations could be coordinated with certain elements of each making up a comprehensive plan for dissemination, in-service and pre-service training, and revision and updating of material.

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